



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,306	03/22/2004	Kenichi Komiya	016907-1631	9139
22428	7590	03/10/2006		
FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			EXAMINER MARTINEZ, CARLOS A	
			ART UNIT 2853	PAPER NUMBER

DATE MAILED: 03/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

2/11

<b>Office Action Summary</b>	<b>Application No.</b> 10/805,306	<b>Applicant(s)</b> KOMIYA ET AL.	
	<b>Examiner</b> Carlos A. Martinez	<b>Art Unit</b> 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07/30/2004 (initially on 03/22/2004) is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>9/28/04 &amp; 3/22/04</u> .   | 6) <input type="checkbox"/> Other: ____.                                    |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: ST4 (pg. 24, line 16 and pg. 25, line 6), ST5 (pg. 24, line 23 and pg. 25, line 6), and ST6 (pg. 24, line 24 and pg. 25, line 7). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: S4 (Fig. 9), S5 (Fig. 9), and S6 (Fig. 9). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each

Art Unit: 2853

drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Sheets" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

#### ***Specification***

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

#### ***Claim Objections***

5. Claims 2-7 are objected to because of the following informalities: "An apparatus" is an improper reference to claim 1 [note: change to "The image forming apparatus"]. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (US5374947) in view of Kim (US5353122).

- Takahashi discloses an image forming apparatus with a light emission means (refer to lines 61-68 of column 3; and lines 1-3 of column 4), scanning control means (refer to lines 33-50 of column 6), first light emission control means for controlling a light emission timing of the light emission means on the basis of a clock (refer to lines 20-24, 45-58 of column 12) by a timing prepared in advance (refer to lines 63-68 of column 13; and 1-10 of column 14), second light emission control means for controlling the light emission timing of the light emission means in correspondence with image data of one line in a main scanning direction on the basis of a generation timing of a horizontal sync signal (refer to element 331) corresponding to the emission of the light beam under control of the first light emission control means (refer to lines 8-13 and 67-68 of column 12; and lines 1-10 of column 13), and image forming means (refer to lines 13-15 of column 12).
- Though Takahashi meets the claimed criteria/limitations, Takahashi does not specifically mention a reference clock; however, it should be noted that a

reference clock would be common, in such a device, to one skilled in the art.

Further, a reference clock is evident in Takahashi because Takahashi makes reference to control timing and a CPU (refer to lines 40-46 and 51 of column 8) – which provides functional/operational data.

- Nevertheless, Kim teaches a reference clock utilized an apparatus with an image forming device (refer to lines 10-27 of column 3).
- Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify the image forming apparatus of Takahashi with Kim to include a reference clock for the purpose of providing synchronization and a reference means with respect to data/signals.

Further, with respect to claim 2, Takahashi discloses an image forming apparatus where the image forming means sets a predetermined process speed from a plurality of different process speeds in a sub-scanning direction (refer to lines 4-11 of column 4; and lines 29-41 of column 13) and a first light emission control means that sets a predetermined timing, detects the predetermined timing based on a reference clock, and controls the light emission timing of the light emission means (refer to lines 43-65 of column 11; lines 20-24, 45-58 of column 12; lines 63-68 of column 13; and 1-10 of column 14).

Further, with respect to claim 3, Takahashi discloses an image forming apparatus where the image forming means sets a predetermined process speed from a plurality of different process speeds in a sub-scanning direction (refer to lines 4-11 of column 4; and lines 29-41 of column

13) and a first light emission control means that sets a predetermined timing, detects the predetermined timing based on an image clock (refer to element 252 of Fig. 6(a) and Fig. 6(b)) corresponding to the reference clock, and causes the light emission means to emit light at a predetermined period to generate the horizontal sync signal at the predetermined period (refer to lines 43-65 of column 11; lines 8-13, 67-68 of column 12; lines 1-10 of column 13; lines 63-68 of column 13; and 1-10 of column 14).

With respect to claim 4, Takahashi discloses an image forming apparatus where the image forming means selects one of a first process speed and a second process speed in a sub-scanning direction when an image is to be transferred to a predetermined medium (refer to lines 11-17 of column 14). Takahashi, further, discloses a first light emission control means that sets a first timing, counts an image clock (refer to element 252 of Fig. 6(a) and Fig. 6(b)) corresponding to the reference clock to detect the first timing and the generation of the horizontal sync (refer to element 331 and lines 46-56 of column 14) at the first period, sets a second timing, counts the image clock corresponding to the reference clock to detect the second timing, and the generation of the horizontal sync (refer to element 331) at a second period (refer to lines 26-41, 46-68 of column 14 and lines 1-19 of column 15).

8. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (US5374947) in view of Sakakibara (US6549265).

- Takahashi teaches an image forming apparatus that has a means of beam detection (refer to element 322).

Art Unit: 2853

- However, Takahashi, does not teach a light amount detection means for detecting a light amount of the light beam emitted.
- Sakakibara teaches a light amount detection means (refer to element 151b and 157) and a first light emission control means that controls the light amount of the light beam emitted by the light emission means to a predetermined value on the basis of a light amount detection result (refer to lines 37-42, 54-57 of column 5; and lines 12-17 of column 17).
- Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify the image forming apparatus of Takahashi with Sakakibara to form an image forming apparatus with light amount detection means and a first light emission control means that controls the light amount of the light beam emitted by the light emission means to a predetermined value on the basis of a light amount detection result for the purpose of providing light emission stability.

With respect to claim 6, Takahashi teaches an image forming apparatus that has a means of beam detection (refer to element 322).

- However, Takahashi does not teach a light amount detection means and a first light emission control that detects a light amount control start and end timing, and controls the light amount of the light beam emitted by the light emission means to a predetermined value on the basis of a light amount detection result.



Art Unit: 2853

- Sakakibara teaches a light amount detection means (refer to element 151b and 157) and a first light emission control that detects a light amount control start and end timing, and controls the light amount of the light beam emitted by the light emission means to a predetermined value on the basis of a light amount detection result (refer to Fig. 15 and 16; lines 37-42, 54-57 of column 5; lines 31-67 of column 12; lines 1-67 of column 13; lines 1-47 of column 14; and lines 12-17 of column 17 ).
- Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify the image forming apparatus of Takahashi with Sakakibara to form an image forming apparatus with light amount detection means and a first light emission control that counts an image clock, detects a light amount control start and end timing, and controls the light amount of the light beam emitted by the light emission means to a predetermined value on the basis of a light amount detection result for the purpose of providing light emission stability and controlled light emission.

Further, with respect to claim 7, Takahashi discloses an image forming apparatus which has a first light emission control means that counts an image clock (refer to element 252) and controls the light emission timing of the light emission means at the preset/predetermined timing (refer to lines 20-24, 45-58 of column 12; lines 1-10 of column 13; lines 63-68 of column 13; and 1-10 of column 14).

***Pertinent Art References***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Appropriate prior art, which is nearest to the subject matter defined in the claims, is listed in the Notice of References Cited. These prior art references, such as Matsuura (US5229790), Spencer (US4578689), Serizawa (US5262801), Kawai (US6839073), Sano (US4935821), Ito (US20040031915), and Nihei (US20040036762) are included because they pertain to image forming or subject matter/elements pertinent to image forming similar to those defined in the claims of the applicant.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos A. Martinez whose telephone number is (571) 272-8349. The examiner can normally be reached on 8:30 am - 5:00 pm (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEPHEN D. MEIER can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CAM  
03/03/2006

  
HAI PHAM  
PRIMARY EXAMINER